writers to shew that Asia could be reached by sailing west from Europe. Indeed, the Rabbis had made some astonishing guesses about the structure of the universe, which by coincidence were near enough to the truth. The so-called "Jerusalem" Talmud *(Aboda Zara,* 42c.) boldly states that the world is in the form of a globe. The *Zohar* (Leviticus i. 3.) goes even further, asserting that the earth rotates on its axis like a ball; thus, when it is day in one half of the globe, the other half is plunged in darkness, and those living below have their heads in the opposite direction to those above. This statement —which was accepted by mediaeval scholars, like the thirteenth-century author of the *Mashal haKadmoni,* Isaac Sahulla—familiarised in wide circles among the Jews the conjecture of antipodean conditions which, from the days of Cosmas Indicopleustes, had been treated with general derision.

The progress of maritime discovery at the close of the Middle Ages was bound up with certain technical improvements. Ships were small: knowledge was limited: mechanical aids almost non-existent. Even after the introduction of the compass, it remained impossible to estimate the position of a ship at sea. The starting-point in the history of modern exploration was hence when navigation became oceanic—that is to say, when ships could sail out boldly into uncharted seas instead of hugging the coast or steering in a direction which would bring them in sight of known land

within a few hours.

In the development and perfection of the instruments and tables by means of which this became possible, Jewish savants—who were deeply interested in astronomy—played a part of the utmost importance, which associates their names inseparably with the whole story of the maritime discoveries.